ON, Canada, [3]Unither Biotech Inc., Magog, QC, Canada, [4]United Therapeutics Corporation, Research Triangle Park, NC, USA

OBJECTIVES: Treprostinil is available in two forms (inhaled vs. infused) for the treatment of patients with pulmonary arterial hypertension (PAH) and New York Heart Association (NYHA) Class II-IV symptoms. The preference from 384 members of the general public for the inhaled form, and this population's willingness-to-pay (WTP) in additional monthly insurance premiums for the inclusion of this treatment on a hypothetical insurance scheme have been previously reported. The present cost-benefit analysis (CBA) explored whether it would be cost-beneficial to include inhaled treprostinil to a list of medications reimbursed by private third-party payers in Canada, for PAH NYHA Class III patients. **METHODS:** The CBA was based on a hypothetical population of 100,000. Total yearly benefits were calculated by targeting subjects 18 years of age or older and active in the workforce, applying the percentage of subjects who prefer inhaled treprostinil to infused treprostinil (85.8%) and their median monthly WTP ($CAD21.50) multiplied by 12. Potential costs were evaluated by estimating the number of potential PAH patients in the hypothetical cohort, 18 years of age or older and in NYHA Class III category, multiplied by the annual cost of using inhaled treprostinil ($117,893). The final cost-benefit to third-party payers was appraised by subtracting the potential costs from the potential benefits. **RESULTS:** Based on prevalence rates, the hypothetical starting cohort would yield 2 patients, resulting in expected costs of $235,786 to third-party payers. The estimated number of subjects willing to pay for the inclusion of inhaled treprostinil on the formulary of reimbursed drugs was 37,540, generating benefits of $9,685,320. Hence, the expected difference (benefits minus costs) was $9,449,534. **CONCLUSIONS:** The inclusion of inhaled treprostinil to formularies of reimbursed medications would be highly cost-beneficial to private third-party payers in the province of Ontario, Canada, for patients with PAH and NYHA Class III symptoms.

PRS21

COST-EFFECTIVENESS OF BUDESONIDE/FORMOTEROL VERSUS FLUTICASONE/SALMETEROL BASED ON REAL-WORLD EFFECTIVENESS IN PATIENTS WITH COPD

Hedegaard M[1], Janson C[2], Lisspers K[2], Ställberg B[2], Johansson G[2], Jörgensen L[1], Larsson K[3]
[1]AstraZeneca, Södertälje, Sweden, [2]Uppsala University, BMC, Uppsala, Sweden, [3]Karolinska Institutet, Stockholm, Sweden

OBJECTIVES: Fixed combinations of inhaled corticosteroids and long-acting β_2-agonists are widely used in treatment of patients with chronic obstructive pulmonary disease (COPD) to reduce exacerbations. Cost-effectiveness analyses comparing the costs and effects of the fixed combinations budesonide/formoterol and fluticasone/salmeterol in COPD are scarce. The objective of this study was to evaluate the cost-effectiveness of budesonide/formoterol relative to fluticasone/salmeterol based on up to eleven years of real-world effectiveness data (NCT01146392) from a Swedish health care perspective. **METHODS:** Resource use and effectiveness data were collected retrospectively from primary care medical records' data, patients ≥18 years, both sexes, with a diagnosis of COPD (J44) and merged with Swedish hospital, drug, and cause of death register data from 1 January 1999 to 31 December 2009. Propensity score matching of treatment groups was done at the index date (first prescription of fixed combination post COPD diagnosis). Exacerbations were defined as hospitalisations and emergency room visits for COPD, prescription of glucocorticosteroids and/or prescription of antibiotics for respiratory tract infections. Annual exacerbation rates were calculated using Poisson regression. The effectiveness variable was the number of exacerbations avoided. Direct costs were calculated by applying year 2010 Swedish unit costs to the annual resource use. Bootstrapping was used to quantify uncertainty around estimates. **RESULTS:** Based on 2734 patients in each treatment group, the annual exacerbation rate was 0.800 for patients treated with budesonide/formoterol and 1.090 for patients treated with fluticasone/salmeterol (26.6% reduction, $p<0.0001$). Treatment with budesonide/formoterol was found to be cost-saving compared with treatment with fluticasone/salmeterol (total average annual per patient cost of SEK12 580 [€1318] and SEK15 979 [€1675], respectively). **CONCLUSIONS:** Budesonide/formoterol was the dominant strategy (more effective at lower cost) compared to fluticasone/salmeterol for the treatment of patients with COPD based on 11 years of real-world effectiveness data.

PRS22

COST-EFFECTIVENESS OF BECLOMETHASONE/FORMOTEROL VERSUS FLUTICASONE/SALMETEROL IN THE TREATMENT OF PATIENT WITH MODERATE TO SEVERE ASTHMA IN SPAIN

Collados C[1], Ojeda P[2], Martín V[3], Rejas J[4]
[1]Universidad Carlos III de Madrid, Getafe (Madrid), Spain, [2]Clínica de Asma y Alergia Dres. Ojeda, Madrid, Spain, [3]Trial Form Support, S.L., Alcobendas, Spain, [4]Pfizer España, Alcobendas/Madrid, Spain

OBJECTIVES: To estimate the cost-effectiveness of Beclomethasone/Formoterol (BF) versus Fluticasone/Salmeterol (FS) in the treatment of adult out-patients with moderate to severe asthma from the perspective of the Society in Spain. **METHODS:** A Markov model was developed with five asthma health states: successful control, sub-optimal control, outpatient-managed exacerbation, inpatient-managed exacerbation, and death. Weekly transition probabilities were derived from the published 12-weeks ICAT SE study. Resources utilization were obtained from a published Spanish study designed *ad-hoc* to ascertain health care resources utilization, the so-called lost-workday-equivalents, and corresponding costs related with treatment of asthma in the year 2011. Time horizon was set at 12 weeks in the basecase scenario. Effectiveness was expressed as quality-adjusted life years (QALY) gain. The cost-effectiveness was expressed as an incremental cost effectiveness ratio (ICER). Bootstrapping techniques (10,000 re-samples) were used to obtain the probabilistic ICER, its 95% percentile confidence interval (CI) and the cost-effectiveness acceptability curve. Univariate and probabilistic sensitivity analysis (PSA) were also applied and included, among others, extension of the horizon to one year and the perspective of the NHS only. **RESULTS:** Compared with FS, BF was associated with a slightly increase in QALY gain; 0,7974 vs. 0,7945 while differential costs were always lower favoring BF and yielding to a mean ICER dominant (95% CI: dominant; €46,930) per QALY gained. In 96% of re-samples, the ICER was below the threshold of €30,000 per QALY, considered as cost-effective in Spain. Univariate and PSA were robust and confirmed results of the basecase scenario. **CONCLUSIONS:** From the Spanish societal and NHS perspectives in year 2011, Becomethasone/Formoterol produced similar QALY gain at a lower cost when compared with Fluticasone/Salmeterol in a highly meaningful number of replications and scenarios. Thus, Beclomethasone/Formoterol may be considered a cost-effective alternative in the treatment of moderate to severe asthma in Spain.

PRS23

PHARMACOECONOMIC ANALYSIS OF ROFLUMILAST FOR TREATMENT OF ADULT PATIENTS WITH SEVERE-TO-VERY SEVERE CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

Margieva A, Omelyanovsky V, Avxentyeva M, Krysanov I, Zorin N, Andreyeva N
Research Center for Clinical and Economic Evaluation and Pharmacoeconomics, Russian National Research Medical University, Moscow, Russia

OBJECTIVES: To conduct comparative pharmacoeconomic analysis of roflumilast+formoterol versus formoterol monotherapy in adult patients with severe-to-very severe COPD. **METHODS:** Analysis of the published clinical trials was conducted to evaluate comparative efficacy and safety of the studied therapy options. Expected difference in direct medical costs was calculated in Excel model based on clinical trial data about decreased number of exacerbations on roflumilast+formoterol therapy. 1-year costs of treatment were calculated from the Russian health care system point of view. Parameter uncertainty was explored using one-way sensitivity analysis. **RESULTS:** Patients on combination therapy have 20.7% less exacerbations that leads to decreased costs of treatment. The annual treatment cost per 1 patient was 37.93 USD less for roflumilast+formoterol therapy than for formoterol. The one-way sensitivity analysis showed that the results are sensitive to the variations of key model parameters: for example combination therapy remained the cheaper alternative when the price for roflumilast was no more than ± 5.0-5.2% from the basic level. **CONCLUSIONS:** The combination of roflumilast + formoterol on average was more effective and cost-saving treatment option for patients with severe-to-very severe COPD, but the results are sensitive to the variations of price of roflumilast, the length of stay costs and the duration of hospital stay for COPD exacerbations.

PRS24

COST-EFFECTIVENESS OF VARENICLINE COMPARED WITH BUPROPION AND NRT (NICORETTE) FOR SMOKING CESSATION IN AUSTRIA

Walter E, Mercsanits D
Institute for Pharmaeconomic Research, Vienna, Austria

OBJECTIVES: Austria's smoking-rate is among the world highest. Varenicline has been shown to be an effective and well-tolerated intervention for smoking cessation. The objective of this study was to evaluate and compare the cost-effectiveness of varenicline with bupropion and nicotine-replacement-therapy (NRT) for smoking cessation in Austria. **METHODS:** A markov-model was used to demonstrate the Benefits of Smoking Cessation on Outcomes (BENESCO model). The model simulates the incidence of four smoking-related morbidities: lung-cancer, chronic-obstructive-pulmonary-disease, coronary-heart-disease and stroke. The model computes costs, quality-adjusted-life-years (QALYs) and life-years (LYs) gained. Incremental cost-utility-ratios were calculated, adopting a lifetime perspective. Efficacy data were obtained from a pooled varenicline phase 3a studies (22.5% for varenicline and 15.7% for bupropion) and from Silagy(2005) for NRT (15.5%). QALYs, life-years and costs were discounted at 5% p.a. **RESULTS:** The analyses imply that for Austria, smoking cessation using varenicline versus budropion or NRT is associated with reduced smoking-related morbidity and mortality. The number of morbidities and mortalities avoided over lifetime, per 1000 smokers attempting to quit, amounts to 7.36 cases of morbidities and 4.14 deaths if varenicline is used instead of bupropion and 7.40 morbidities and 4.14 mortalities when varenicline is used in place of NRT. The number of QALYs gained over lifetime, per 1000 smokers, was 16.64 (15.32 LYs gained) in case of varenicline vs. bupropion and 16.74 QALYs gained (15.40 LYs gained) for varenicline vs. NRT. The incremental cost-utility-ratio of varenicline vs. bupropion amounts to 5,367€ and for varenicline vs. NRT it is 4,070€. Additional costs were paid out-of-pocket. Probabilistic-sensitivity-analyses demonstrated the robustness of the model regarding assumptions and input-parameters. **CONCLUSIONS:** This cost-effectiveness analysis demonstrated that varenicline treatment is cost-effective in Austria. Our results suggest that funding varenicline as a smoking cessation aid is justifiable from a health care resource allocation perspective.

PRS25

COST ANALYSIS OF OMALIZUMAB USE IN PATIENTS WITH SEVERE UNCONTROLLED ASTHMA WITHIN THE MEXICAN PUBLIC HEALTH CARE SYSTEM

Lemus-Carmona E[1], Reyes-Lopez A[2], Jimenez Aranda P[3]
[1]Novartis Pharmaceuticals Corporation, Mexico City, Mexico, [2]Mexican Children Hospital, Mexico City, Mexico, [3]Novartis, Coyoacan, Mexico